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ABSTRACT

This study evaluated the effects of DISCOVER for Adult Learners and System of Interactive Guidance and Information (SIGI) PLUS on career decidedness, vocational identity, and perceptions of computer use for 116 adults seeking services at a self-help oriented career center. Adults were randomly assigned to either DISCOVER for Adult Learners (DAL), SIGI PLUS, or a control condition that involved unstructured use of print and audiovisual materials in a university career center. Use of DAL and SIGI PLUS by adults resulted in positive gains in vocational identity. Subjects in the control condition and subjects using DISCOVER experienced a significant increase in career decidedness. Adults perceived both systems as having a positive impact on three dimensions of computer effectiveness: Analysis, Synthesis, and Computer Effect. The conclusion was that computer-based interventions are equivalent to more traditional career interventions. These findings have implications for practice and for further research. (Author)

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The Impact of DISCOVER for Adult Learners and SIGI PLUS on the Career Decision Making of Adults

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Abstract

This study evaluated the effects of DISCOVER for Adult Learners[1] and SIGI PLUS on career decidedness, vocational identity, and perceptions of computer use for 116 adults seeking services at a self-help oriented career center. Adults were randomly assigned to either DISCOVER for Adult Learners (DAL), SIGI PLUS, or a control condition that involved unstructured use of print and AV materials in a university career center. Use of DAL and SIGI PLUS by adults resulted in positive gains in vocational identity. Subjects in the control condition and subjects using DISCOVER experienced a significant increase in career decidedness. Adults perceived both systems as having a positive impact on three dimensions of computer effectiveness, Analysis, Synthesis, and Computer Effect. The conclusion was that computer-based interventions are equivalent to more traditional career interventions. Implications of these results for practice and further research are discussed.

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1 The current version of DISCOVER for Adult Learners is entitled DISCOVER for Colleges and Adults.

Background

New computer-assisted career guidance (CACG) systems specifically designed for adults, such as DISCOVER for Adult Learners (American College Testing Program, 1986a) and SIGI PLUS (Educational Testing Service, 1986a), were created in response to growing concern about the career development needs of adults and the availability of services targeted for them. Adults are viewed as having unique needs related to mid-life career change, dual-career couple issues, unemployment, underemployment, disability, discrimination, women returning to education and work after a long absence, and retirement (e.g., Leibowitz & Lea, 1992). Private and public-sector organizations (Cairo, 1992), postsecondary institutions (Haskell & Wiener, 1992; Keierleber & Hansen, 1992), and community organizations and organized labor (Goodman & Waters, 1992) are initiating career services designed to be easily accessible to adults. Computer-assisted career guidance systems may serve as an important component of career guidance services tailored to adults (Harris-Bowlsbey, 1992; Norris, Shatkin, & Katz, 1991; Riesenberg, 1987).

The problem is that while research findings have generally supported the efficacy of computer-assisted career guidance systems with high school and college student populations (Cairo, 1983; Sampson, 1984), little research has been conducted to assess the impact of various CACG systems on adult clients. Some CACG systems have been expressly modified to accommodate the needs of adults. For example, both DISCOVER for Adult Learners and SIGI PLUS were strongly influenced by previous system versions, DISCOVER for Schools (American College Testing Program, 1985) and the System of Interactive Guidance and Information (SIGI) (Educational Testing Service, 1985) respectively.

With respect to earlier studies documenting the effects of CACG systems, DISCOVER was effective in exerting a positive influence on the career planning process by increasing the use of career resource materials (Garis & Swails, 1983); in improving career development attitudes (Kapes, Borman, & Kimberly, 1985); in increasing career planning knowledge (Penn, 1981); and in increasing confidence in educational and career plans (Rayman, Bryson, & Harris-Bowlsbey, 1978). Other studies indicated that DISCOVER had no significant positive effect on increasing occupational knowledge or competency in career decision making (Garis & Swails, 1983), or on career maturity knowledge (Kapes, Borman, & Kimberly, 1985). SIGI has been shown to be effective in increasing career preparedness (Neumann, 1978); in encouraging career search behavior (Davis & Dickson, 1980); in increasing career maturity (Pyle & Stripling, 1976); in improving career decision making skills (Chapman, Katz, Norris, & Pears, 1977; Cochran, Hoffman, Strand, & Warren, 1977; Riesenberg, 1980); in enhancing confidence in educational and vocational planning (Risser & Tulley, 1976); and in decreasing the level of undecidedness (Salters, 1984). However, SIGI was shown to have

no significant impact on improving career maturity (Devine, 1975; Fadden, 1983).

Recent studies have begun to examine new versions of CACG systems as well as their effect on adults. Hafer (1987) reported that SIGI PLUS was effective in reducing college students' career indecision. Brownfield (1987) examined the impact of SIGI PLUS and DISCOVER for Adult Learners and found that both systems fostered an increase in adult career decision-making. Marin and Splete (1991) used DISCOVER II with an adult sample and concluded that this system contributes to a person's career decidedness and occupational certainty. They noted that while all subjects using the computer-based intervention made progress in their career decision-making, those in the computer-plus-counselor group achieved even greater career decision-making progress.

The present study was conducted to add to the growing body of knowledge on the effect of CACG systems on adult clients by examining the effects of DISCOVER for Adult Learners and SIGI PLUS on career decidedness, vocational identity, and perceptions of computer use. The design of the study corrects for some of the limitations of prior CACG research, namely the lack of congruence of dependent measures to CACG system goals (Cairo, 1983), the lack of direct comparisons of the effectiveness of various systems (Cairo, 1983; Parish, Rosenberg, & Wilkinson, 1979), the use of research designs without longitudinal components (Clyde, 1979), and the lack of methodological rigor, such as random assignment to treatment groups, control conditions, standardized dependent measures, and adequate instrumentation (Spokane & Oliver, 1983).

Methodology

Participants

The sample (see Table 1) consisted of 56 adults from 116 walk-in clients seeking services from a university-based career center that offers career services to students and individuals in the community. The adult subjects in this study were members of the ongoing stream of clients seeking services from the center. Mail and telephone contacts were used to encourage participants completion and return of the research instruments. Fifty-six (56) completed the first two sets of measures, while 37 completed the follow-up questionnaire. Given the low response rate to the follow-up mailing, the Career Exploration Survey (CES) and the third set of responses to the Occupational Alternatives Question (OAQ) results were omitted from the data analysis. Ages ranged from 21 to 50, with a mean age of 35.0 years (SD=7.2), 75% were female and 96% were white. Sixty-seven percent (67%) of the participants were employed full-time and over half the sample (52%) had a total household income of $20,000 or more. Only a very small percentage of these adults reported prior experience with a variety of career services: individual counseling, 14%; career course, 4%; and some type of CACG system, 11%. The most widely used resource was "interest/ability/personality

assessment" with 46% reporting prior experience with this form of career assistance. These adults were also asked to list their short-term, long-term, and most important goal(s), and to indicate how they felt the center could help them in achieving their goals. This information is summarized for each treatment group in Table 2.

Computer-Assisted Career Guidance Systems

DISCOVER for Adult Learners was designed to assist adults in making and implementing realistic career choices. The six modules of DISCOVER for Adult Learners were: 1) self-assessment relating to adult transitions, 2) self-assessment of interests, abilities, experiences, and values including structured search of occupational alternatives, 3) presentation of occupational information, 4) instruction in decision-making, 5) structured search of educational alternatives, presentation of educational information and development of an educational plan, and 6) employability skills instruction (American College Testing Program, 1986b).

SIGI PLUS was designed to facilitate rational career decision making. SIGI PLUS had nine sections that included: INTRODUCTION, SELF-ASSESSMENT, SEARCH, INFORMATION, SKILLS, PREPARING, COPING, DECIDING, and NEXT STEPS (Educational Testing Service, 1986b; Katz 1984). The basic assumptions and design features of the system were described by Norris, Shatkin, Schott, & Bennett (1985).

Evaluation Standard

Instruments were selected on the basis of their congruence with an evaluation standard for computer-assisted career guidance systems (Sampson & Peterson, 1984). This evaluation standard consisted of a series of aims and objectives common to DISCOVER for Adult Learners and SIGI PLUS in particular, and to most "guidance-type" CACG systems in general. Chapman (1975), Gelatt (1962), Harris-Bowlsbey (1983a; 1983b), Katz (1966; 1973), Katz and Shatkin (1983), Sampson, McMahon, and Burkhead (1985), and Super (1973), provided the conceptual basis for developing the evaluation standard. Each dependent measure in the study was judged by the investigators to relate to one or more of the following objectives:

Any comprehensive CACG system should assist individuals in:

- developing their career decision making skills;
- clarifying their values, interests, and abilities as they relate to career decision making;
- identifying potentially satisfying occupations congruent with their values, interests, and abilities;
- acquiring an understanding of the world of work;
- integrating their understanding of self and the world of work, such that they are capable of making a tentative occupational choice that is both rewarding and realistic; and

.formulating a systematic plan of action for implementing their occupational choice.
(Sampson & Peterson, 1984, p. 1).

Instrumentation

The Occupational Alternatives Question (OAQ) (Zener & Schnuelle, 1972; modified by Slaney, 1978; 1980) measured career decidedness, and relates to objectives 1, 3, and 5 above. Slaney's (1978, 1980) scale was used in scoring the OAQ with 1 = first choice; no alternatives; 2 = 1st choice with alternatives; 3 = No first choice, but alternatives; 4 = Neither first choice, nor alternatives. Test-retest reliability for the OAQ was reported at .93 (Redmond, 1973) and found to be stable over a six week period (Slaney, 1978). Concurrent validity was demonstrated by Slaney, Stafford, and Russell (1981). Slaney and Dickson (1985) found the OAQ useful in assessing the career decidedness of reentry women.

My Vocational Situation (MVS) (Holland, Daiger, & Power, 1980a) measured vocational identity, the perceived need for information, and perceived barriers to career decision making, and relates to objectives 2, 4, and 5 above. Holland, Daiger, and Power (1980b) presented scale reliabilities (KR 20) from .23 to .86, with the Identity Scale demonstrating the highest degree of internal consistency. Construct validity for the MVS was demonstrated by Holland, Daiger, and Power (1980b). Additional studies have documented the usefulness of the MVS in assessing the career status of adult clients (Haviland & Mahaffy, 1985; Lucas, Gysbers, Buescher & Heppner, 1988; Olson, Johnston & Kunce, 1985; Ross & Spencer, 1988; Slaney & Dickson, 1985).

The Computer Rating Form. A modified version of the Counselor Rating Form (Barak & LaCrosse, 1975) was used in this study to enhance face validity of the instrument. The modifications involved renaming the instrument the Computer Rating Form (CRF), and asking adults to respond in terms of their perceptions of what it was like to use DISCOVER for Adult Learners or SIGI PLUS (in the case of the two treatment groups) or their perceptions as to what it would be like to use a CACG system (in the case of the control group). Other instructions and the 36 seven-point bipolar dimensions in the Computer Rating Form were identical to the original Counselor Rating Form. The three 12-item scales of the CRF include expertness, attractiveness, and trustworthiness as measures of social influence (Strong, 1968). Split-half reliability coefficients reported for the CRF were .87 for expertness, .85 for attractiveness, and .91 for trustworthiness (LaCrosse & Barak, 1976). The CRF has been demonstrated to be a valid instrument for assessing perceptions of counselor behavior from multiple sources (Barak & LaCrosse, 1977). Sampson, Peterson, Reardon, Lenz, Shahnasarian, and Ryan-Jones (1992) demonstrated that subjects were willing to evaluate their experience with a CACGS in terms of items normally used to describe interaction with a counselor. Results from the Sampson, et al (1992) study revealed

higher mean ratings for the computer than those reported in several earlier studies where the original version of the CRF was used to evaluate counselors or simulations of a counseling experience. Of interest in this study was whether adult subjects would rate the computer as highly as more traditional age college students with regard to the characteristics assessed by the CRF: expertness, attractiveness, trustworthiness.

The Career Exploration Survey (CES) (Stumpf, Colarelli, & Hartman, 1983) was used to measure career search behaviors, reactions to exploration, and beliefs about exploration, and relates to objectives 4 and 6. Coefficient alpha estimates of reliability are reported to be from .70 to .92 across the 16 scales.

DISCOVER for Adult Learners & SIGI PLUS Evaluation Form. (See Appendices A & B). The objectives described on the previous page were also used in the development of a specific CACG evaluation instrument. An item pool was developed to measure each of the six criteria described above as well as to measure general impressions and human factors (i.e., user friendliness). Following external reviews of items by a variety of career guidance professionals, including the developers of DISCOVER for Adult Learners, SIGI, and SIGI PLUS, and subsequent editing, a total of 64 items were retained for field testing. A five-point Likert-type rating scale was adopted where 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree. For this study, two parallel forms of the 64-item questionnaire were developed, one for each system (Peterson, Sampson, & Reardon, 1985). Using principal components analysis, Peterson, Ryan-Jones, Sampson, and Reardon (1988) reduced the original 64 four items to 24 items representing three constructs labeled as follows: Analysis, Synthesis, and Computer Effect. Analysis refers to the degree to which a system helps individuals acquire self-knowledge and occupational knowledge. Synthesis assesses the system's effectiveness in helping users identify career alternatives. Computer Effect measures the degree to which individuals find interacting with the computer rewarding. Intercorrelations among the three composite scales ranged from .39 to .60, with their respective alpha reliabilities of .83 (Analysis), .77 (Synthesis), and .87 (Computer Effect) (Peterson, Ryan-Jones, Sampson, & Reardon, 1988).

The DISCOVER for Adult Learners Progress Record, The SIGI PLUS Progress Record, and the CCIS Log (Reardon, 1984a) (see Appendices C, D, & E) were designed to verify the extent to which DISCOVER for Adult Learners, SIGI PLUS, and the control condition were actually used by adults.

Design

The study employed a modified pretest-posttest control group design, with some measures administered as post-tests only. The OAQ was used as a measure of career decidedness at pre-test, post-test and follow-up. The MVS and CRF were used as pre-test

measures for the control group only in order to offset testing effects for the two computer groups. The differential sequencing of measures across the three groups was designed to provide for overall assessment of changes in dependent variables while avoiding potential testing effects on the two independent variables DISCOVER for Adult Learners and SIGI PLUS.

Procedures

A flowchart of the process used with adults who agreed to participate in the study can be found in Appendix F. The participants were randomly assigned, using a random number table, to either a DISCOVER for Adult Learners group (n=41), a SIGI PLUS group (n=42), or a control group (n=33). Those in the DISCOVER for Adult Learners and SIGI PLUS groups were instructed not to use other available CACG systems in the career center until the data collection was completed. Participants using the two systems were allowed to use any of the system modules in which they had an interest and were asked to simply indicate on their Progress Record which modules they actually used. Adults in the control group, in consultation with a career advisor, identified a series of activities in the career center that were appropriate to their presenting concerns. They were invited to study, read, or make unstructured use of the audio-visual and print-based career information materials in the self-help section of the career center (See Reardon, Domkowski, & Jackson 1980). This procedure is in keeping with Isaac and Michael's (1974) recommendation that a control group should experience the same genre of activities as the treatment groups, with the exception of the critical factor, per se, which in this case was the use of a CACGS. Similar to the SIGI PLUS and DISCOVER for Adult Learners groups, adults in the control group were asked not to use available CACG systems until the data collection was completed.

All adults participating in the study were given a treatment specific orientation by one of the career center career advisors during which (1) an overview of the study was provided; 2) a research participation release form/demographic questionnaire (see Appendix G), an individually tailored career planning contract (see Appendix H), and the OAQ were completed (the control group also completed the MVS, and the CRF; 3) an introduction to the purpose, operation, and procedures associated with DISCOVER for Adult Learners, SIGI PLUS, or the control condition was provided; 4) an explanation of data collection procedures was presented; 5) initial appointments were scheduled for DISCOVER for Adult Learners or SIGI PLUS, and 6) a tour of the career center, including the location of relevant resources, was completed. All three groups were encouraged to ask questions, obtain feedback, and seek support from available staff members during the study. As noted previously, a record of each adult's activities in the center was kept using the appropriate form for their treatment group: The DISCOVER for Adult Learners Progress Record, the SIGI PLUS Progress Record, or the CCIS Log for control group subjects. Upon completing their use of the

system, or in the case of the control group, the activities outlined on their contract, each subject completed the following instruments: 1) the OAQ; and 2) for the DISCOVER for Adult Learners group the MVS, DISCOVER for Adult Learners Evaluation Form, and the CRF; for the SIGI PLUS group the MVS, SIGI PLUS Evaluation Form, and the CRF. Three weeks later, the CES and a third OAQ were mailed to all subjects who had completed their specific treatment as a follow-up measure of treatment and control conditions.

Results

A series of univariate and multivariate procedures were used in assessing the effects of the various treatment interventions on the dependent measures. For the analyses on some measures (MVS, CRF) the CCIS users were considered as a "no treatment" (no computer intervention) control group. In the analysis of OAQ results, the control group subjects served as a third treatment/comparison group.

In the initial comparison of the two computer systems, a Treatment x CACG Evaluation form (2 x 3) analysis produced no significant differences between the DISCOVER for Adult Learners and SIGI PLUS groups on mean ratings of the systems with respect to the Analysis, Synthesis, and Computer Effect scales. The means and standard deviations for each group and the overall means and standard deviation are presented in Table 3.

To determine if there were differences between the three groups in terms of pre-treatment levels of career decidedness, initial OAQ scores were analyzed using analysis of variance. This analysis revealed were no significant differences between the three groups. DISCOVER users and subjects in the control group experienced significant improvements with respect to their level of career decidedness as reflected in t-test results for pre-post scores on the OAQ. OAQ pre and post means and standard deviations for each group are presented in Table 4.

Two direct comparisons of DAL and SIGI PLUS were made in terms of vocational identity and perceived CACG effectiveness. With the CCIS users serving as a control group (MVS administered prior to CCIS service delivery), adults in both DAL and SIGI PLUS groups showed improvement in vocational identity as measured by the MVS. In a post hoc comparison, adults in both groups perceived DAL and SIGI PLUS to be equally effective in promoting Analysis, Synthesis, and a positive reaction to the system (Computer Effect), as evidenced by the lack of significant differences between groups, and in terms of the positive direction of the scores obtained for Analysis, Synthesis, and Computer Effect. See Table 5.

A comparison of mean ratings on the CRF scales of Attractiveness, Trustworthiness and Expertness for each computer group resulted in no significant differences. Ratings on the CRF for each computer group were also compared to CRF ratings of the control group, who completed the CRF as a pre-treatment measure. The subjects in the control group were asked to respond to items on the CRF form by "imagining" what it would be like if they were to use a CACGS. A significant difference was found between the control and DAL groups on the CRF Expert dimension. It is interesting to note that the CRF means for the control group on the variables of Trust, Attractiveness and Expertness were all higher than those of the groups who actually interacted with the systems (Table 6).

Next, an analysis was done to examine treatment and level of occupational certainty and their effect on various post-treatment measures. No significant differences were found on the MVS, CACG Evaluation Form, or the CRF for persons using SIGI PLUS or DISCOVER, categorized as having high or low occupational certainty, based on pre-treatment OAQ scores. See Table 7.

Discussion

This study revealed some interesting results with regard to the delivery of career services to adults and the use of adult-specific computer-based guidance systems. Use of DISCOVER for Adult Learners and SIGI PLUS by adults in this study resulted in positive gains in vocational identity. DISCOVER also had a positive impact on subjects' career decidedness. Adults perceived both systems as having a positive impact on their career problems, as indicated by their responses to the scales on the CACG Evaluation form, i.e., Analysis, Synthesis, and Computer Effect. With respect to career decidedness, the control group showed similar positive results in comparison to DISCOVER for Adult Learners. One can conclude from this study that computer-based interventions are equivalent, but not superior to a self-help oriented career intervention. This is consistent with other research (Spokane & Oliver, 1988, 1983; Holland, Magoon & Spokane, 1981) on career interventions, showing all career interventions to have some positive impact. It should be noted that the CCIS control condition used in this study is an established, effective career intervention (Peterson, Reardon, & Sampson, 1991) which likely impacted the positive results for this group. At this point, it is still unclear (Marin, 1984) as to the additive impact of computer applications with adults. It is interesting to note that the CACG systems produced positive results in a relatively brief time period. It could be that when CACG systems are used with more counselor-intensive interventions such as groups or classroom interventions, the additive impact of computer applications will be more evident. The greater efficacy of counselor-intensive interventions reported by Oliver and Spokane (1988) lend some support to this conclusion.

The literature on career interventions has frequently called for more emphasis on client follow-up several weeks after they received treatment (Fretz, 1981; Rounds & Tinsley, 1984) to determine if initial gains were maintained. The low response rate in this study to a follow-up mailing and repeated telephone requests, four weeks or longer after the intervention, suggests that obtaining this type of data will require extraordinary effort on the part of researchers. In addition to the initial follow-up mailing, all subjects who did not respond received a phone call and/or a second mailing to encourage their return of the forms. One might think adults would be easier to follow-up because they are more likely to have permanent residences than student subjects. While that may be true, what became apparent through conversations with these adults, was that the competing demands of their other life roles made it difficult for them to devote a significant amount of time to the career planning and exploration process, even the fifteen minutes necessary to complete the follow-up forms.

Implications

Implications for Practice

The results of this study suggest that DISCOVER for Adult Learners and SIGI PLUS are effective resources in the provision of career services for adults. The results also suggest that system content may influence the extent to which adults make complete use of system features. In introducing CACG systems, it may be important for counselors to help adults understand how system content relates to their needs so that important CACG features are not neglected due to a lack of awareness of their significance.

The results of this study also suggest adults' perceptions of the expertness of the CACG systems declined with actual experience with the systems. Computers may create a more positive impression in the abstract, especially in terms of the user's perception of their "expertness," but tend to be seen in a less positive light after a person interacts with them directly. Anecdotal comments from several adult users, as reported by staff members, suggested that the adults' initial expectations were that the computer systems would provide highly specific information related to the adults' individual problems, and that only minimal effort (i.e., using a system and implementing the results) would be required to solve their career problems. The problem is not that the systems fail to deliver information, but rather that adults' tend to have misperceptions of the specificity of CACG information, e.g., particular job openings, more advanced level jobs, institution-specific financial aid options, etc. Given the complex life situations of many adult clients, solving career problems inevitably requires a great deal of individual effort beyond that required for interacting with a CACG system. This finding implies the further need for more effective orientations prior to adults' use of CACG systems so that their expectations are more in line with system

capabilities. The localization option may be an important feature which institutions serving adults need to take advantage of when installing their software.

Implications for Future Research

One of the historical problems with CACG research has involved the lack of accurate descriptions of the treatment, e.g., the specific amount and nature of CACG system use by subjects. In order to accurately investigate system impact, it is necessary to analyze (or control for) how systems are used. For example, one undecided adult uses a CACG system briefly to obtain information on two occupations of interest, while another undecided adult completes a comprehensive self-assessment, an occupational search, a review of career information, a review of the decision-making process, and implements an action plan. Both adults then respond to dependent measures on career decidedness. The potential gains in career decidedness by the adult making extensive use of the system may be cancelled out by the potential lack of gains by the adult making minimal use of the system, resulting in an erroneous conclusion that CACG systems are ineffective, when in reality the systems may be effective when used more extensively. System developers could significantly impact this problem by adding the capacity to track individual users as they interact with CACG systems, thus providing more detailed information about the nature of the treatment intervention.

Future research also needs to compare methods of user access to system content in terms of users self-selecting appropriate modules/sections based on their own perceived needs (aided by recommendations provided on-line during introductory CACG modules/sections), versus counselors recommending the number and sequencing of modules/sections based on user needs identified in an initial interview and from assessment data (MVS, OAQ, etc.).

References

American College Testing Program. (1985). DISCOVER for Schools. Hunt Valley, MD: Author.

American College Testing Program. (1986a). DISCOVER for Adult Learners. Hunt Valley, MD: Author.

American College Testing Program. (1986b). DISCOVER for Adult Learners: Professional manual. Hunt Valley, MD: Author.

Barak, A. & LaCrosse, M. B. (1975). Multidimensional perception of counselor behavior. Journal of Counseling Psychology, 22, 471-476.

Brownfield, K. N. (1987). A comparative study of career decision making with two computer-assisted career guidance systems. (Doctoral dissertation, University of Tulsa, 1987). Dissertation Abstracts International, 48, 02A.

Cairo, P. C. (1983). Evaluating the effects of computer-assisted counseling systems: A selective review. The Counseling Psychologist, 11(4), 55-59.

Cairo, P. C. (1992). Career planning and development in organizations. In Z. B. Leibowitz & H. D. Lea (Eds.). Adult career development: Concepts, issues and practices (2nd ed.). (pp. 296-311). Washington, DC: National Career Development Association.

Chapman, W. (1975). Counselor's handbook for SIGI. Princeton, NJ: Educational Testing Service.

Chapman, W., Katz, M. R., Norris, L., & Pears, L. (1977). SIGI: Field test and evaluation of a computer-based System of Interactive Guidance and Information. Princeton, NJ: Educational Testing Service.

Clyde, J. S. (1979). Computerized career information and guidance systems. Columbus, OH: The Ohio State University, ERIC Clearinghouse on Adult, Career, and Vocational Education. (ERIC Document Reproduction Service No. ED 179 764).

Cochran, D. J., Hoffman, S. D., Strand, K. H., & Warren, P. M. (1977). Effects of client/computer interaction on career decision-making processes. Journal of Counseling Psychology, 24, 308-312.

Cochran, L. R. (1977). Differences between suggested and elicited considerations in career evaluation. Social Behavior and Personality, 5, 241-247.

Cochran, L. R. (1983). Seven measures of the ways that deciders frame their career decisions. Measurement and Evaluation in Guidance, 16, 67-77.

Davis, D., & Dickson, J. (1980). A progress report on the System of Interactive Guidance and Information: October 1976 to June 1979. Unpublished manuscript, Delta College, Counseling Center, University Center, Michigan.

Devine, H. F. (1975). The effects of a computer-based career counseling program on the vocational maturity of community college students. Unpublished doctoral dissertation, University of Florida, Gainesville, FL.

Educational Testing Service. (1985). System of Interactive Guidance and Information. Princeton, NJ: Author.

Educational Testing Service. (1986a). SIGI PLUS. Princeton, NJ: Author.

Educational Testing Service. (1986b). SIGI PLUS: Counselor's manual. Princeton, NJ: Author.

Fadden, T. F. (1983). The effects of computer-assisted guidance and information on the vocational maturity of college students when used alone and in combination with a career planning and decision-making course. (Doctoral dissertation, Marquette University, 1983). Dissertation Abstracts International, 45, 02A.

Garis, J. W., & Swails, R. C. (1983, May). Computers and career counselors: A comparison of their effects upon students' career planning progress. Paper presented at the College Placement Council National Meeting, Anaheim, CA.

Gelatt, H. B. (1962). Decision-making: A conceptual frame of reference for counseling. Journal of Counseling Psychology, 9, 240-245.

Goodman, J., & Waters, E. (1992). Community-based adult career counseling. In Z. B. Leibowitz & H. D. Lea (Eds.). Adult career development: Concepts, issues and practices (2nd ed.). (pp. 340-354). Washington, DC: National Career Development Association.

Hackett, G., & Betz, N. E. (1981). A self-efficacy approach to the career development of women. Journal of Vocational Behavior, 18, 326-339.

Hafer, A. A. (1987). Treatment effects of a computer-assisted career guidance system (SIGI PLUS), the SCII, and SDS for engineering freshmen. (Doctoral dissertation, Clemson University, 1987), Dissertation Abstracts International, 48, 06A.

Harren, V. A., Kass, R. A., Tinsley, H. E. A., & Moreland, J. R. (1978). Influence of sex role attitudes and cognitive styles on career decision making. Journal of Counseling Psychology, 25, 331-339.

Harris, J. (1974). The computer: Guidance tool of the future. Journal of Counseling Psychology, 21, 331-339.

Harris-Bowlsbey, J. (1983a). A historical perspective. In C. Johnson (Ed.), Microcomputers and the school counselor (pp. 1-16). Alexandria, VA: American School Counselor Association.

Harris-Bowlsbey, J. (1983b). The computer and the decider. The Counseling Psychologist, 11, 9-14.

Harris-Bowlsbey, J. (1992). Systematic career guidance and computer-based systems. In Z. B. Leibowitz & H. D. Lea (Eds.). Adult career development: Concepts, issues and practices (2nd ed.). (pp. 102-114). Washington, DC: National Career Development Association.

Haskell, P., & Wiener, N. (1992). Career counseling adults in a community college setting. In Z. B. Leibowitz & H. D. Lea (Eds.). Adult career development: Concepts, issues and practices (2nd ed.). (pp. 355-361). Washington, DC: National Career Development Association.

Haviland, M. G., & Mahaffy, J. E. (1985). The use of My Vocational Situation with nontraditional college students. Journal of College Student Personnel, 26, 169-170.

Holland, J. L., Daiger, D. C., & Power, G. (1980a). My Vocational Situation. Palo Alto, CA: Consulting Psychologists Press.

Holland, J. L., Daiger, D. C., & Power, G. (1980b). Description of an experimental diagnostic form for the selection of vocational assistance. Palo Alto, CA: Consulting Psychologists Press.

Isaac, S., & Michael, W. B. (1974). Handbook in research and evaluation. San Diego, CA: Robert R. Knapp.

Kapes, J. T., Borman, C. A., Garcia, G., Jr., & Compton, J. W. (1985, April). Evaluation of microcomputer based career guidance systems with college students: SIGI and DISCOVER. Paper presented at the annual meeting of the American Educational Research Association, Chicago.

Kapes, J. T., Borman, C. A., & Kimberly, R. M. (1985, January). Using microcomputer based career guidance systems in a university setting: Reaction data from users. Paper presented at the annual meeting of the Southwest Educational Research Association, Austin.

Katz, M. R. (1966). A model of guidance for career decision-making. Vocational Guidance Journal, 15, 2-10.

Katz, M. R. (1973). Career decision-making: A computer-based System of Interactive Guidance and Information (SIGI). From Proceedings of the 1973 Invitational Conference on Testing Problems--Measurement for Self-Understanding and Personal Development, Educational Testing Service.

Katz, M. R. (1980). SIGI: An interactive aid to career decision-making. Journal of College Student Personnel, 21, 34-40.

Katz, M. R. (1984). Computer-assisted guidance: A walk-through with running comments. Journal of Counseling and Development, 63, 153-157.

Katz, M. R., & Shatkin, L. (1983). Characteristics of computer-assisted guidance. The Counseling Psychologist, 11, 15-31.

Keierleber, D. L., & Hansen, L. S. (1992). A coming of age: Addressing the career development needs of adult students in university settings. In Z. B. Leibowitz & H. D. Lea (Eds.). Adult career development: Concepts, issues and practices (2nd ed.) (pp. 312-339). Washington, DC: National Career Development Association.

LaCrosse, M. B., & Barak, A. (1976). Differential perception of counselor behavior. Journal of Counseling Psychology, 23, 170-172.

Leibowitz, Z. B., & Lea, H. D. (Eds.) (1992). Adult career development: Concepts, issues and practices. (2nd ed.) Washington, DC: National Career Development Association.

Lucas, E. B., Gysbers, N. C., Buescher, K. L., & Heppner, P. P. (1988). My Vocational Situation: Normative, psychometric, and comparative data. Measurement and Evaluation in Counseling and Development, 20, 162-170.

Marin, P. A. (1984). The differential effectiveness of computer-based career counseling intervention and decision making style on progress in career decision status. (Doctoral dissertation, University of Michigan, 1984). Dissertation Abstracts International, 45, 3550A.

Marin, P. A., & Splete, H. (1991). A comparison of the effect of two computer-based counseling interventions on the career decidedness of adults. Career Development Quarterly, 39, 360-371.

McKinlay, B., & McKeever, M. R. (1980). The Career Information System: A decade of developmental research. In T. L. Wentling (Ed.), ARRIVE: Annual review of research in vocational education (pp. 353-362). Urbana, IL: University of Illinois and Illinois State Board of Education.

Neumann, E. F. (1978). Final report of the System of Interactive Guidance and Information. Pasadena, CA: Pasadena City College, Student Personnel Services.

Norris, L., Shatkin, L., & Katz, M. (1991). SIGI PLUS and Project LEARN: A retrospective. Journal of Career Development, 18, 61-72.

Norris, L., & Shatkin, L., Schott, P. S., & Bennett, M. F. (1985). SIGI PLUS: Development and field test of the computer-based System of Interactive Guidance and Information...PLUS MORE. Unpublished manuscript, Educational Testing Service, Princeton, NJ.

Norris, L., & Shatkin, L., Schott, P. S., & Bennett, M. F. (1986). The field test of SIGI PLUS, the computer-based System of Interactive Guidance and Information...PLUS MORE. Unpublished manuscript, Educational Testing Service, Princeton, NJ.

Olson, S. K., Johnston, J. A., & Kunce, J. (1985). Validity of My Vocational Situation for homemakers and displaced homemakers. Measurement and Evaluation in Counseling and Development, 18, 17-25.

Parish, P. A., Rosenberg, H., & Wilkinson, L. (1979). Career information resources, applications, and research 1950-1979. Boulder, CO: University of Colorado.

Penn, P. D. (1981). Differential effects on vocationally-related behaviors of a computer-based career guidance system in communication with innovative career exploration strategies. (Doctoral dissertation, University of Minnesota, 1981). Dissertation Abstracts International, 42, 12A.

Peterson, G. W., Ryan-Jones, R. E., Sampson, J. P., Jr., & Reardon, R. C. (1988). A comparison of the effectiveness of three computer-assisted career guidance systems: DISCOVER, SIGI and SIGI Plus. Paper presented at the annual meeting of the American Educational Research Association, New Orleans.

Peterson, G. W., Sampson, J. P., Jr., & Reardon, R. C. (1985). DISCOVER Evaluation Form & SIGI Evaluation Form & SIGI PLUS Evaluation Form. Unpublished manuscripts, Florida State University, Project LEARN--Phase II, Tallahassee.

Peterson, G. W., Sampson, J. P., Jr., & Reardon, R. C. (1991). Career development and services: A cognitive approach. Pacific Grove, CA: Brooks/Cole Publishing Company.

Phillips, S. D., Friedlander, M. L., Pazienza, N. J., & Kost, P. P. (1984, August). A factor analytic investigation of career decision making styles. Paper presented at the American Psychological Association Convention, Toronto, Canada.

Pyle, K R., & Stripling, R. O. (1976). The counselor, the computer, and career development. Vocational Guidance Quarterly, 25, 71-75.

Rayman, J. R., Bryson, P. L., & Harris-Bowlsbey, J. (1978). The field trial of DISCOVER: A new computerized interactive guidance system. Vocational Guidance Quarterly, 26, 349-360.

Reardon, R. C. (1984a). DISCOVER for Adult Learners Progress Record, SIGI PLUS Progress Record, & CCIS Log. Unpublished manuscripts, Florida State University, Project LEARN--Phase II, Tallahassee.

Reardon, R. C. (1984b). Computer-Assisted Career Guidance Questionnaire. Unpublished manuscript, Florida State University, Project LEARN--Phase II, Tallahassee.

Reardon, R., Domkowski, D., & Jackson, E. (1980). Career center evaluation methods: A case study. Vocational Guidance Quarterly, 29, 150-158.

Redmond, R. E. (1973). Increasing vocational information-seeking behaviors of high school students. (Doctoral dissertation, University of Maryland, 1972). Dissertation Abstracts International, 34, 2311A-2312A. (University Microfilms No. 73-17, 046)

Riesenberg, B. (1980). Report to the W. K. Kellogg Foundation on three year comprehensive summary of the demonstration model for computer-assisted career planning at U.C. Irvine. Unpublished manuscript, University of California-Irvine, Office of Student Affairs, Irvine.

Riesenberg, B. (1987). The impact of the computer on counseling: The adult learner. Career Planning and Adult Development Journal, 3(2), 71-74.

Risser, J. J., & Tulley, J. E. (1976). SIGI project research design summary of the pilot study. Unpublished manuscript, Pasadena City College, Pasadena, CA.

Ross, T. J., & Spencer, F. (1988). Reliability and utility of MVS for a psychiatric population. Career Development Quarterly, 37, 70-77.

Salters, L. G. (1984). SIGI, values-based computer software: Its effects on undecided students. (Doctoral dissertation, University of South Carolina, 1984). Dissertation Abstracts International, 45, 05A.

Sampson, J. P., Jr. (1984). Maximizing the effectiveness of computer applications in counseling and human development: The role of research and implementation strategies. Journal of Counseling and Development, 63, 187-191.

Sampson, J. P., Jr., McMahon, B. T., & Burkhead, E. J. (1985). Using computers for career exploration and decision-making in vocational rehabilitation. Rehabilitation Counseling Bulletin, 28, 242-261.

Sampson, J. P., Jr., & Peterson, G. W. (1984). Evaluation standard: Computer-assisted career guidance systems. Unpublished manuscript, Florida State University, Project LEARN--Phase II, Tallahassee.

Sampson, J. P., Jr., Peterson, G. W., Reardon, R. C., Lenz, J., Shahnasarian, M., & Ryan-Jones, R. E. (1993). The social influence of two computer-assisted career guidance systems: DISCOVER and SIGI. Career Development Quarterly, 41, 75-83.

Sampson, J. P., Jr., Shahnasarian, M., & Reardon, R. C. (1985). A national survey of the use of DISCOVER and SIGI: Technical report No. 1. Unpublished manuscript, Florida State University, Project LEARN--Phase II, Tallahassee.

Slaney, R. B. (1978). Expressed and inventoried vocational interests: A comparison of instruments. Journal of Counseling Psychology, 25, 520-529.

Slaney, R. B. (1980). Expressed vocational choice and vocational indecision. Journal of Counseling Psychology, 27, 122-129.

Slaney, R. B., & Dickson, R. D. (1985). Relation of career indecision to career exploration with reentry women: A treatment and follow-up study. Journal of Counseling Psychology, 32, 355-362.

Slaney, R. B., Stafford, M. J., & Russell, J. E. (1981). Career indecision in adult women: A comparative and descriptive study. Journal of Vocational Behavior, 19, 335-345.

Splete, H. H. (1984). Computerized career guidance systems and career counseling services. Unpublished manuscript, Oakland University, Adult Career Counseling Center, Rochester, MI.

Splete, H. H., Elliot, B. J., & Borders, L. D. (1985). Computer-assisted career guidance systems and career counseling services. Unpublished manuscript, Oakland University, Adult Career Counseling Center, Rochester, MI.

Spokane, A., & Oliver, L. (1983). The outcomes of vocational intervention. In W. B. Walsh and S. Osipow (Eds.), Handbook of vocational psychology (Vol. 2) (pp. 96-136). Hillsdale, NJ: Lawrence Erlbaum Associates.

Strong, S. R. (1968). Counseling: An interpersonal influence process. Journal of Counseling Psychology, 15, 215-224.

Stumpf, S. A., Colarelli, S. M., & Hartman, K. (1983). Development of the Career Exploration Survey. Journal of Vocational Behavior, 22, 191-226.

Super, D. E. (1973). Computers in support of vocational development and counseling. In H. Borow (Ed.), Career guidance for a new age (pp. 285-316). Boston: Houghton Mifflin Co.

Zener, T. & Schnuelle, L. (1972). An evaluation of the Self Directed Search: A guide to educational and vocational planning (Report No. 124). Baltimore, MD: Johns Hopkins University, Center for Social Organization of Schools. (ERIC Document Reproduction Service No. ED 061 485)

Table 1

Group and Aggregate Demographic Characteristics of Sample Used in Study

	Group			
	Control (n=17)	SIGIPLUS (n=21)	DISCOVER-ADULT (n=18)	TOTAL (N=56)
Variable				
Age				
M	31.9	33.6	34.5	33.4
SD	7.8	7.1	7.1	7.2
Sex				
Male	24%	24%	28%	25%
Female	76%	76%	72%	75%
Race				
Black	0%	0%	0%	0%
Hispanic	0%	0%	0%	0%
Asian Amer.	0%	0%	0%	0%
Native Amer.	0%	5%	0%	2%
Anglo/White	100%	95%	100%	93%
Other	0%	0%	0%	0%
No Response	0%	0%	0%	5%
Marital Status				
Single, Never Mar.	27%	38%	50%	38%
Married	60%	48%	33%	45%
Single, Prev. Mar.	13%	14%	17%	14%
Employment Status				
Employed,FT	80%	62%	67%	66%
Employed,PT	7%	9%	11%	9%
Unemployed	0%	10%	11%	7%
Never Employed	0%	0%	0%	0%
FT Homemaker	7%	14%	11%	4%
Other	7%	5%	0%	4%
Educ Enrollment				
Not in School	88%	90%	83%	86%
PT Student	12%	10%	17%	13%
FT Student	0%	0%	0%	0%

Table 1 (Continued)

Variable	Group			
	Control (n=17)	SIGIPLUS (n=21)	DISCOVER-A (n=18)	TOTAL (n=56)
Prior Individual Career Counseling				
Yes	18%	10%	17%	14%
No	82%	90%	83%	86%
No Response	0%	0%	0%	0%
Prior Group Career Counseling				
Yes	0%	10	11%	7%
No	100%	90%	83%	91%
No Response	0%	0%	6%	2%
Prior Career Assessment				
Yes	53%	33%	56%	46%
No	47%	67%	44%	54%
No Reponse	0%	0%	0%	0%
Prior Career Course				
Yes	12%	0%	0%	4%
No	88%	100%	94%	95%
No Response	0%	0%	6%	1%
Prior Use of Career Workbook				
Yes	12%	5%	11%	9%
No	88%	95%	83%	89%
No Response	0%	0%	6%	2%
Prior Career Workshop				
Yes	6%	5%	6%	5%
No	94%	95%	89%	93%
No Response	0%	0%	6%	2%

Table 1 (Continued)

Variable	Group Control (n=17)	SIGIPLUS (n=21)	DISCOVER-A (n=18)	TOTAL (n=56)
Prior CACG Experience				
Yes	12%	5%	17%	11%
No	88%	95%	78%	88%
No Response	0%	0%	6%	0%
Exec Search Firms/Emp Service				
Yes	6%	5%	17%	9%
No	94%	95%	78%	89%
No Response	0%	0%	6%	2%

Table 2

Summary of Adults' Short-Term, Long-Term, & Most Important Goals

	Response Categories			
	Undecided	Occupational Issues	Educational Issues	Self Issues
Short-term goals				
Control	5 (22%)	9 (39%)	7 (30%)	2 (9%)
SIGIPLUS	5 (15%)	15 (45%)	9 (27%)	4 (12%)
DISCOVER	3 (10%)	15 (48%)	9 (29%)	4 (13%)
Long-term goals				
Control	5 (21%)	8 (33%)	8 (33%)	3 (13%)
SIGIPLUS	4 (10%)	18 (44%)	10 (24%)	9 (22%)
DISCOVER	6 (17%)	13 (36%)	9 (25%)	8 (22%)
Most Important goal				
Control	3 (9%)	15 (45%)	2 (6%)	13 (39%)
SIGIPLUS	4 (9%)	18 (41%)	2 (5%)	20 (45%)
DISCOVER	3 (7%)	18 (44%)	0 (0%)	21 (51%)

Table 3

CACG Evaluation Form Means & Standard Deviations

Group	Analysis M	Analysis SD	Synthesis M	Synthesis SD	Comp. Eff M	Comp. Eff SD
DIS. for Adult Learners						
Males	3.6	.62	3.1	.87	3.0	.75
Females	3.7	.42	3.2	.70	3.4	.48
Total	3.7	.47	3.2	.72	3.3	.57
SIGIPLUS						
Males	4.0	.52	3.4	.65	3.4	.53
Females	3.6	.61	3.1	.59	3.2	.71
Total	3.7	.60	3.2	.60	3.2	.67

1=strongly disagree 2=disagree 3=neutral 4=agree 5=strongly agree

Table 4

OAQ Means & Standard Dev OAQ Means & Standard Deviations

	Pre-treat OAQ M	SD	Post-treat OAQ M	SD
Control	2.9	.49	2.4*	.71
DAL	2.5	.51	2.2*	.38
SIGI+	2.8	.83	2.4	.74

*p ≤.05.

Table 5

My Vocational Situation Means & Standard Deviations

	Group							
	Control (n=17)		DIS-ADULT (n=18)		SIGI+ (n=21)		Total (n=56)	
	M	SD	M	SD	M	SD	M	SD
Identity	4.9	2.3	9.5*	3.0	10.0*	4.7	8.3	4.2
Occup Info	.47	.72	1.7	1.1	1.7	1.1	1.9	.84
Barriers	2.5	.87	2.6	.86	3.2	.81	2.8	.89

*$p \leq .05$

Table 6

Means & SD's on Computer Rating Form by Treatment Group

	Group			
Measure	Control (n=15)	SIGI+ (n=21)	DISCOVER-AL (n=17)	TOTAL (n=53)
CRF-Trust	M=31.3 SD=11.6	M=30.9 SD=11.8	M=27.3 SD= 5.5	M=29.9 SD=10.1
CRF-Attract	M=40.9 SD=15.5	M=37.5 SD=11.7	M=35.7 SD= 6.9	M=38.0 SD=11.6
CRF-Expert	M=31.9 SD=14.0	M=29.6 SD=11.6	M=24.2 SD= 5.8	M=28.5 SD=11.0

Table 7

Post-Treatment MVS, CACG Eval Form & CRF Means x Pre-Treatment OAQ

	DIS for AL		SIGI+	
	Pre-Treatment OAQ			
	Lo	Hi	Lo	Hi
My Voc. Situation				
Voc. Identity	9.2	9.8	9.1	12.2
Occup Info	1.8	1.6	1.9	1.3
Barriers	2.6	2.6	3.1	3.3
CACG Eval. Form				
Analysis	3.8	3.6	3.9	3.4
Synthesis	3.2	3.2	3.1	3.4
Comp. Effect	3.4	3.2	3.4	2.9
Computer Rating Form				
Attractiveness	36.1	36.2	36.2	40.7
Trustworthiness	29.1	25.7	30.6	31.8
Expertness	23.4	24.9	28.4	32.5

APPENDICES

DISCOVER FOR ADULT LEARNERS EVALUATION FORM

Directions: Please answer the following questions as honestly and frankly as you can. Use the 5 point scale below to respond to the questions. Circle the number that best expresses your opinion.

1 Strongly Disagree (SD)	2 Disagree (D)	3 Neutral (N)	4 Agree (A)	5 Strongly Agree (SA)

	SD	D	N	A	SA
1. DISCOVER A-L helped me become more confident of being able to choose a satisfying occupation.	1	2	3	4	5
2. DISCOVER A-L helped me identify a logical series of steps to take in making a career decision.	1	2	3	4	5
3. DISCOVER A-L was helpful in showing me whether or not I needed more information about myself before making career decisions.....	1	2	3	4	5
4. DISCOVER A-L was too rigid in its approach to career decision-making.	1	2	3	4	5
5. DISCOVER A-L was helpful in showing me whether or not I needed more information about occupations before making a career choice.....	1	2	3	4	5
6. The way I typically think about making career choices is very different from the approach used by DISCOVER A-L.....	1	2	3	4	5
7. I feel less anxious about making a career choice as a result of using DISCOVER A-L.....	1	2	3	4	5
8. DISCOVER A-L was effective in helping me to understand the role of my values, interests, and abilities in making satisfying career decisions.....	1	2	3	4	5

1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree

		SD	D	N	A	SA
9.	DISCOVER A-L was helpful in accurately clarifying my values.....	1	2	3	4	5
10.	DISCOVER A-L was helpful in accurately clarifying my interests.....	1	2	3	4	5
11.	DISCOVER A-L was helpful in accurately clarifying my abilities.....	1	2	3	4	5
12.	All in all, DISCOVER A-L confused me with too much information about myself....	1	2	3	4	5
13.	I was satisfied with the variety of career options DISCOVER A-L gave me to consider.....	1	2	3	4	5
14.	I was satisfied with the number of career options DISCOVER A-L gave me to consider.....	1	2	3	4	5
15.	Most of the career options DISCOVER A-L presented to me seemed logical given my values, interests, and abilities.....	1	2	3	4	5
16.	I was so overloaded with the number and variety of career options presented by DISCOVER A-L that I don't know where to go from here.....	1	2	3	4	5
17.	I can seriously consider most of the occupations suggested by DISCOVER A-L..	1	2	3	4	5
18.	DISCOVER A-L helped me to become more familiar with the educational requirements of potential occupational choices.	1	2	3	4	5
19.	DISCOVER A-L helped me understand the demands associated with potential occupational choices, such as amount of free time, vacations, and continuing education.....	1	2	3	4	5
20.	DISCOVER A-L helped me to understand the rewards potential occupations offer, such as salary, interesting work, prestige, variety, and challenge.....	1	2	3	4	5

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1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree

		SD	D	N	A	SA
21.	Basically, DISCOVER A-L told me no more about the world of work than I already knew	1	2	3	4	5
22.	DISCOVER A-L helped me to learn much more about several occupations.....	1	2	3	4	5
23.	I now better understand how the world of work is organized as a result of using DISCOVER A-L.....	1	2	3	4	5
24.	DISCOVER A-L was helpful in prioritizing the field of potential occupational choices to a manageable number.....	1	2	3	4	5
25.	I found the process of reducing the field of potential occupations to be frustrating.....	1	2	3	4	5
26.	DISCOVER A-L helped me to see differences between occupations that I had not seen before.....	1	2	3	4	5
27.	I feel confident that I would find most of the final list of potential occupations satisfying.....	1	2	3	4	5
28.	I was left confused as to what the next step should be in making a career choice.....	1	2	3	4	5
29.	DISCOVER A-L helped me to identify additional sources of information that would be helpful in making a career choice.....	1	2	3	4	5
30.	DISCOVER A-L helped me to identify important milestones to achieve in attaining a career such as educational degrees, training or licenses.....	1	2	3	4	5
31.	I now see clearly the steps I need to take to get from where I am now to obtaining a job.....	1	2	3	4	5
32.	In general, I found DISCOVER A-L to be helpful.....	1	2	3	4	5

1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree

		SD	D	N	A	SA
33.	The information displayed on the screen was easy to understand.....	1	2	3	4	5
34.	The printed materials I received will be helpful in the future.....	1	2	3	4	5
35.	I felt I was actually carrying on a conversation with DISCOVER A-L.....	1	2	3	4	5
36.	I found myself getting bored after a while on the computer.....	1	2	3	4	5
37.	I felt that DISCOVER A-L understood my career problems.....	1	2	3	4	5
38.	I would have preferred learning about career decision-making more from a counselor than from DISCOVER A-L	1	2	3	4	5
39.	I felt in control of what I wanted to do on DISCOVER A-L.....	1	2	3	4	5
40.	The information I gave DISCOVER A-L was truthful.....	1	2	3	4	5
41.	DISCOVER A-L helped me to feel more hopeful of finding a satisfying occupation..	1	2	3	4	5
42.	I can take the information that DISCOVER A-L gave me seriously.....	1	2	3	4	5
43.	DISCOVER A-L answered most of my career questions to my satisfaction.....	1	2	3	4	5
44.	Using DISCOVER A-L for career guidance seemed like playing a game.....	1	2	3	4	5
45.	DISCOVER A-L was easy to use.....	1	2	3	4	5
46.	I would be willing to use DISCOVER A-L again in the future.....	1	2	3	4	5
47.	DISCOVER suggested A-L many jobs I would not consider.....	1	2	3	4	5
48.	I understand myself better now.....	1	2	3	4	5

1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree

		SD	D	N	A	SA
49.	Using DISCOVER made me worry about my career.....	1	2	3	4	5
50.	DISCOVER increased my confidence in my original vocational choice.....	1	2	3	4	5
51.	My family or friends liked the outcomes suggested by DISCOVER.....	1	2	3	4	5
52.	I see more occupational opportunities than I did before using DISCOVER.....	1	2	3	4	5
53.	I would recommend DISCOVER to a friend.	1	2	3	4	5
54.	I felt better about my career after I used DISCOVER	1	2	3	4	5
55.	I have learned about some new educational programs as a result of using DISCOVER.	1	2	3	4	5
56.	I plan to get more career information after using DISCOVER.....	1	2	3	4	5
57.	I needed more help from a counselor before using DISCOVER.....	1	2	3	4	5
58.	I needed more help from a counselor after using DISCOVER.....	1	2	3	4	5
59.	Using DISCOVER is like talking with a career counselor.....	1	2	3	4	5
60.	Just filling out my income tax form is a frustrating experience.....	1	2	3	4	5
61.	Trying to locate something in the yellow pages of the telephone directory irritates me.....	1	2	3	4	5
62.	Using DISCOVER was more upsetting than taking the written drivers test.....	1	2	3	4	5
63.	It makes me uneasy to visit my doctor even if I am not very sick.....	1	2	3	4	5
64.	I often worry about being unable to make ends meet.....	1	2	3	4	5

SIGI PLUS (+) EVALUATION FORM

Directions: Please answer the following questions as honestly and frankly as you can. Use the 5 point scale below to respond to the questions. Circle the number that best expresses your opinion.

1 Strongly Disagree (SD)	2 Disagree (D)	3 Neutral (N)	4 Agree (A)	5 Strongly Agree (SA)

		SD	D	N	A	SA
1.	SIGI+ helped me become more confident of being able to choose a satisfying occupation.....	1	2	3	4	5
2.	SIGI+ helped me identify a logical series of steps to take in making a career decision.....	1	2	3	4	5
3.	SIGI+ was helpful in showing me whether or not I needed more information about myself before making career decisions.....	1	2	3	4	5
4.	SIGI+ was too rigid in its approach to career decision-making.....	1	2	3	4	5
5.	SIGI+ was helpful in showing me whether or not I needed more information about occupations before making a career choice.....	1	2	3	4	5
6.	The way I typically think about making career choices is very different from the approach used by SIGI+.....	1	2	3	4	5
7.	I feel less anxious about making a career choice as a result of using SIGI+.....	1	2	3	4	5
8.	SIGI+ was effective in helping me to understand the role of my values, interests, and abilities in making satisfying career decisions.....	1	2	3	4	5

1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree

		SD	D	N	A	SA
9.	SIGI+ was helpful in accurately clarifying my values.....	1	2	3	4	5
10.	SIGI+ was helpful in accurately clarifying my interests.....	1	2	3	4	5
11.	SIGI+ was helpful in accurately clarifying my abilities.....	1	2	3	4	5
12.	All in all, SIGI+ confused me with too much information about myself.....	1	2	3	4	5
13.	I was satisfied with the <u>variety</u> of career options SIGI+ gave me to consider.....	1	2	3	4	5
14.	I was satisfied with the <u>number</u> of career options SIGI+ gave me to consider.....	1	2	3	4	5
15.	Most of the career options SIGI+ presented to me seemed logical given my values, interests, and abilities.....	1	2	3	4	5
16.	I was so overloaded with the number and variety of career options presented by SIGI+ that I don't know where to go from here.....	1	2	3	4	5
17.	I can seriously consider most of the occupations suggested by SIGI+.....	1	2	3	4	5
18.	SIGI+ helped me to become more familiar with the educational requirements of potential occupational choices.	1	2	3	4	5
19.	SIGI+ helped me understand the demands associated with potential occupational choices, such as amount of free time, vacations, and continuing education.....	1	2	3	4	5
20.	SIGI+ helped me to understand the rewards potential occupations offer, such as salary, interesting work, prestige, variety, and challenge.....	1	2	3	4	5

1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree

		SD	D	N	A	SA
21.	Basically, SIGI+ told me no more about the world of work than I already knew...	1	2	3	4	5
22.	SIGI+ helped me to learn much more about several occupations.....	1	2	3	4	5
23.	I now better understand how the world of work is organized as a result of using SIGI+	1	2	3	4	5
24.	SIGI+ was helpful in prioritising the field of potential occupational choices to a manageable number.....	1	2	3	4	5
25.	I found the process of reducing the field of potential occupations to be frustrating.....	1	2	3	4	5
26.	SIGI+ helped me to see differences between occupations that I had not seen before.....	1	2	3	4	5
27.	I feel confident that I would find most of the final list of potential occupations satisfying.....	1	2	3	4	5
28.	I was left confused as to what the next step should be in making a career choice.....	1	2	3	4	5
29.	SIGI+ helped me to identify additional sources of information that would be helpful in making a career choice.....	1	2	3	4	5
30.	SIGI+ helped me to identify important milestones to achieve in attaining a career such as educational degrees, training or licenses.....	1	2	3	4	5
31.	I now see clearly the steps I need to take to get from where I am now to obtaining a job.....	1	2	3	4	5
32.	In general, I found SIGI+ to be helpful.....	1	2	3	4	5

1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree

		SD	D	N	A	SA
33.	The information displayed on the screen was easy to understand.....	1	2	3	4	5
34.	The printed materials I received will be helpful in the future.....	1	2	3	4	5
35.	I felt I was actually carrying on a conversation with SIGI+.....	1	2	3	4	5
36.	I found myself getting bored after a while on the computer.....	1	2	3	4	5
37.	I felt that SIGI+ understood my career problems.....	1	2	3	4	5
38.	I would have preferred learning about career decision-making more from a counselor than from SIGI+.....	1	2	3	4	5
39.	I felt in control of what I wanted to do on SIGI+.....	1	2	3	4	5
40.	The information I gave SIGI+ was truthful.....	1	2	3	4	5
41.	SIGI+ helped me to feel more hopeful of finding a satisfying occupation..	1	2	3	4	5
42.	I can take the information that SIGI+ gave me seriously.....	1	2	3	4	5
43.	SIGI+ answered most of my career questions to my satisfaction.....	1	2	3	4	5
44.	Using SIGI+ for career guidance seemed like playing a game.....	1	2	3	4	5
45.	SIGI+ was easy to use.....	1	2	3	4	5
46.	I would be willing to use SIGI+ again in the future.....	1	2	3	4	5
47.	SIGI+ suggested many jobs I would not consider.....	1	2	3	4	5
48.	I understand myself better now.....	1	2	3	4	5

1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree

		SD	D	N	A	SA
49	Using SIGI+ made me worry about my career	1	2	3	4	5
50	SIGI+ increased my confidence in my original vocational choice	1	2	3	4	5
51	My family or friends liked the outcomes suggested by SIGI+	1	2	3	4	5
52	I see more occupational opportunities than I did before using SIGI+	1	2	3	4	5
53	I would recommend SIGI+ to a friend	1	2	3	4	5
54	I felt better about my career after I used SIGI+	1	2	3	4	5
55	I have learned about some new educational programs as a result of using SIGI+	1	2	3	4	5
56	I plan to get more career information after using SIGI+	1	2	3	4	5
57	I needed more help from a counselor <u>before</u> using SIGI+	1	2	3	4	5
58	I needed more help from a counselor <u>after</u> using SIGI+	1	2	3	4	5
59	Using SIGI+ is like talking with a career counselor	1	2	3	4	5
60	Just filling out my income tax form is a frustrating experience	1	2	3	4	5
61	Trying to locate something in the yellow pages of the telephone directory irritates me	1	2	3	4	5
62	Using SIGI+ was more upsetting than taking the written drivers test	1	2	3	4	5
63	It makes me uneasy to visit my doctor even if I am not very sick	1	2	3	4	5
64	I often worry about being unable to make ends meet	1	2	3	4	5

NAME:_____
(print)

DISCOVER FOR ADULT LEARNERS PROGRESS RECORD

Directions: Curricular Career Information Service (CCIS) is seeking to evaluate the quality of many of its programs and services in order to improve them. You can help in two ways: (1) complete at least some work in Sections 1#, 2#, and 3# of DISCOVER FOR ADULT LEARNERS, and (2) complete the evaluation forms provided. This set of instruments will help us evaluate DISCOVER FOR ADULT LEARNERS. Thank you for your help.

Appointment Date:	Time On DISCOVER A-L		Check Section Used:
(1) ___/___/___	(begin)	___hr. ___min.	# ____1. WEATHERING CHANGE
___/___/___	(end)	___hr. ___min.	
(2) ___/___/___	(begin)	___hr. ___min.	#____2. ASSESSING SELF/ IDENTIFYING ALTERNATIVES
___/___/___	(end)	___hr. ___min.	
(3) ___/___/___	(begin)	___hr. ___min.	
___/___/___	(end)	___hr. ___min.	#____3. GATHERING OCCUPATIONAL INFORMATION
			#____4. MAKING DECISIONS
			#____5. DRAFTING EDUCATIONAL PLANS
			#____6. GETTING A JOB

Note: If you have completed your use of DISCOVER and do not plan to make another appointment to use DISCOVER, please turn this page and complete the remainder of these evaluation forms.

SIGI PLUS (+) PROGRESS RECORD

Name: _____ Date: _____

Directions: Please indicate as accurately as possible how much time you spent using SIGI PLUS and which parts of the system you used.

SIGI PLUS

Appointment Date:	Time on SIGI PLUS:
(1) __/___/___	(begin) ___HR ____MIN.
	(end) ___HR ____MIN.
(2) __/___/___	(begin) ____HR ____MIN.
	(end) ____HR ____MIN.
(3) __/___/___	(begin) ___HR ____MIN.
	(end) ____HR ____MIN.

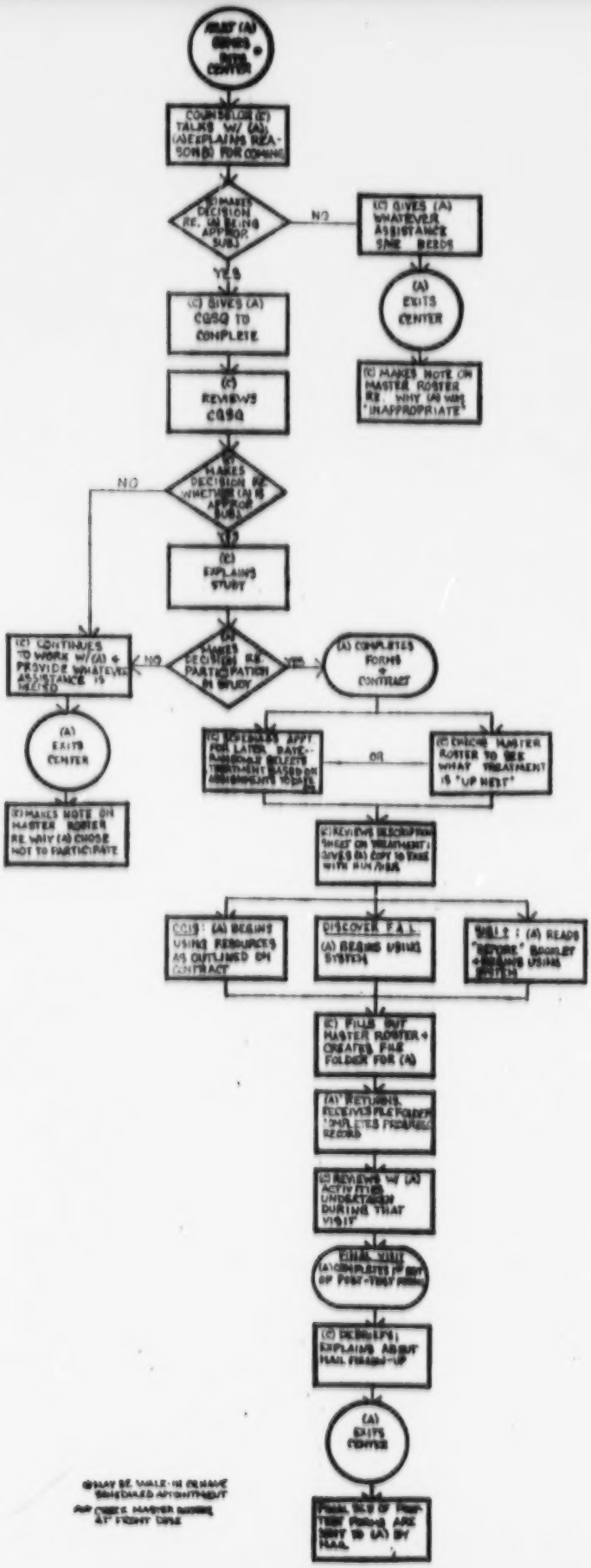
Check Section Used:

* ____1. INTRODUCTION
* ____2. SELF-ASSESSMENT
* ____3. SEARCH
* ____4. INFORMATION
* ____5. SKILLS
* ____6. PREPARING
* ____7. COPING
* ____8. DECIDING
* ____9. NEXT STEPS

CCIS LOG

Directions: During your time in CCIS, indicate the name of the activity and the time spent on that activity. You may do anything you wish.

Date of Visit	Time	Activity


NO
YES
NO
NO
YES
OR

The purpose of this questionnaire is to gather information about the adult clients being served at The Florida State University Curricular-Career Information Service (CCIS). Your input will help us in attempting to reach and assist other adults who might benefit from guidance in a life change process.

RESEARCH PARTICIPATION RELEASE FORM

I give Dr. Robert Reardon and Dr. James Sampson of Florida State University permission to examine my responces on various questionnaires and research instruments related to an evaluation of selected CCIS services. I understand that at no time will my responses be identified by name and that I may have access to my questionnaires and research instruments at any time.

NAME (Please Print) _____

ADDRESS _____

_____

_____

PHONE _____

SIGNATURE _____

CAREER GUIDANCE SERVICES QUESTIONNAIRE

Curricular-Career Information Service

Florida State University

* * * * *

1. How did you learn about this service? 1.____

1. Radio	4. Friend/Relative	7. Counselor
2. Television	5. Employer	8. Administrator
3. Newspaper	6. Teacher	9. Other _____

* * * * *

Why did you choose this service? (Please check Yes or No in the spaces on the right).

		Yes	No
2.	I needed information about jobs.	2.____	____
3.	I needed information about schools, colleges, or special training programs.	3.____	____
4.	I needed assistance in deciding on a career goal.	4.____	____
5.	I was confused about my future.	5.____	____
6.	I wanted to find out more about myself.	6.____	____
7.	I was curious about the service and wanted to find out more about it.	7.____	____
8.	I was thinking about returning to school.	8.____	____
9.	Someone else suggested it would be a good idea for me to come. Who:_____.	9.____	____
10.	Other reason: _____.	10.____	____

* * * * *

11. Please look at your reasons for choosing this service and write <u>the number</u> (2 through 10) of your <u>most important</u> reason in the space provided. 11.____

* * * * *

Items 12-19 refer to your prior experience with a variety of career services. Respond Yes or No by placing a check in the appropriate column to the right.

		Yes	No
12.	Individual career counseling	12.____	____
13.	Group career counseling	13.____	____
14.	Interest/ability/personality assessment	14.____	____
15.	Career Course	15.____	____
16.	Self study career workbook	16.____	____
17.	Career Workshop	17.____	____
18.	Computer-Assisted Career Guidance System If yes, what system _____	18.____	____
19.	Executive search firm/employment service	19.____	____

Please respond to items 20-30 with 1 for Yes and 2 for No in the space provided on the right.

20. I have attended high school 20. _____
21. I have a high school degree. 21. _____
22. I have attended a trade or vocational training school. 22. _____
23. I have a trade or vocational school degree/certificate. 23. _____
24. I have attended a community college. 24. _____
25. I have an Associate degree. 25. _____
26. I have attended a 4-year college/university. 26. _____
27. I have a BA/BS degree. 27. _____
28. I have attended a graduate school. 28. _____
29. I have a Master's degree. 29. _____
30. I have a Ph.D./J.D./M.D./or other advanced professional degree. 30. _____

* * * * *

31. Current educational status: 31. _____
   1. No current involvement.
   2. High school (one or more courses).
   3. Trade/vocational school program.
   4. Community college (one or more courses).
   5. Undergraduate college/university (one or more courses)
   6. Graduate school (one or more courses).
   7. Continuing professional education.
   8. Other: _____.

32. Current enrollment status. 32. _____
   1. Not in school.
   2. Part-time student (less than 12 semester hours).
   3. Full time student.

33. At this time, what are your short and long term educational or career goals. Please describe in the space provided below. If you are unable to specify any goals at this time, write "undecided".

a. Short-term goals (within the next six months).

b. Long-term goals (within the next five years).

c. What is your most important goal?

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* * * * *

What barriers or problems, if any, do you feel might keep you from achieving your goals? Enter 1 for Yes and 2 for No if the following items are barriers or problems for you.

34.	Family responsibilities.	34. _____
35.	Lack of financial support to follow the career I want.	35. _____
36.	Lack of needed support services at school.	36. _____
37.	Lack of child care help.	37. _____
38.	Lack of appropriate training/education.	38. _____
39.	Lack of job opportunities.	39. _____
40.	Distances to jobs/schools.	40. _____
41.	Inconvenient class schedule.	41. _____
42.	Uncertainty about being successful.	42. _____
43.	Lack of personal motivation.	43. _____
44.	Uncertainity about my ability to finish the necessary education or training.	44. _____
45.	Lack of the special talents needed to follow my first choice.	45. _____
46.	Disapproval of an influential person in my life who does not support my vocational choice.	46. _____
47.	Other: _____.	47. _____
48.	Other: _____.	48. _____
49.	Other: _____.	49. _____

* * * * *

50.	Please look at your responses to the questions above (33 through 45) and choose the number of the <u>most limiting</u> barrier or problem that might keep you from achieving your goals.	50. _____

51. How do you think the staff and resources at CCIS might help you to achieve your goals. (Please respond in the space provided below).

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* * * * *

BACKGROUND INFORMATION

52. Age 52. _____

53. Sex 53. _____
1 Male 2 Female

54. Ethnic group 54. _____
1 Black 5 Anglo/White
2 Hispanic 6 Other_____
3 Asian American
4 Native American

55. Number of dependents (children, in-laws, or others) who are living with you: 55. _____
1 0 4 5-6
2 1-2 5 more than 6
3 3-4

56. Current employment status: 56. _____
1 Employed full-time (30hrs or more per week).
2 Employed part-time (less than 30hrs per week).
3 Unemployed.
4 Never employed.
5 Full time homemaker.
6 Other: _____.

57. Total last year's household income: 57. _____
1 Under $8,000
2 $8,000 - $14,999
3 $15,000 - $19,999
4 $20,000 - $24,999
5 $25,000 - $29,999
6 $30,000 and over

58. How much would you be willing to pay for this education/career planning service. 58. _____
1 $200
2 $150
3 $125
4 $100
5 $75
6 $50
7 $40
8 $35
9 $25
10 $15
11 $10
12 $0

CAREER PLANNING CONTRACT

CURRICULAR-CAREER INFORMATION SERVICE (CCIS)

FOR : _____

GOAL : _____

To achieve this goal, the following activities are suggested:

PRIORITY	ACTIVITY	ESTIMATED TIME COMMITMENT	PURPOSE/OUTCOME

This contract can be modified by either party based upon new information learned in the activities of the action plan. The purpose of the contract is to work toward a mutually agreed upon career goal. Activities may be added or subtracted as needed.

_____ _____

CCIS Advisor Date CCIS Client Date